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Foundation for Ecological Security, India, Summer 2011 (Case Study)

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CASE STUDY: Foundation for Ecological Security, India, Summer 2011

Background on Forests in India:

Forests represent 23.57% of India's overall landmass. Local people depend significantly on forests and other environmental commons for fuel wood, fodder, timber, forage, food, drinking water for livestock, and other household requirements. In fact, approximately 275 million of India's rural citizens depend on forests for at least part of their subsistence (CIA World Factbook, 2012). India is experiencing large economic gains (GDP growth is projected at 6.9% for the 2011-12 fiscal year), which requires vast quantities of resources to fuel its growth (CIA World Factbook, 2012). Unfortunately, that fuel often comes at the expense of the environment, and, indirectly, those tribal communities that are dependent upon the forests for their way of life. Despite their importance, forests across India are being exploited for industrial use. In Rajasthan, many forests are being destroyed for marble mining (Foundation for Ecological Security, 2011).

Background on The Foundation for Ecological Security:

Our host NGO, the Foundation for Ecological Security (FES), was established in 2001 to help develop the capacities of tribal communities for forest preservation. FES works towards the ecological restoration and conservation of land in the countryside by educating villagers about the interrelationships of various life forms and natural systems. In order to achieve its aims, FES primarily works through villager self-governance efforts. The NGO helps villagers help themselves by acting as a catalyst for development; they provide the appropriate tools and resources to villagers to help build their capacities for forest preservation. FES' daily duties include meeting with surrounding communities and assisting them with their environmental pursuits. My team worked out of the FES Udaipur chapter. Udaipur and the surrounding area are between the western deserts of Rajasthan and the humid, lush forests of the east (Foundation for Ecological Security, 2011).

About the Global Engagement Studies Institute:

The Global Engagement Studies Institute (GESI) is a program hosted by Northwestern University that invites students from across the United States to participate in community development through an immersive summer abroad. The program begins with a week of

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preparation and coursework in Chicago with Northwestern faculty and experts from the development sector; during this Pre-Departure Learning Summit, students are introduced to the principles of ABCD and other development models. After the week of training, GESI participants spend nearly 8 weeks abroad with NGOs throughout the developing world. Students work in team-based internships, and they collaborate with their NGO and community members to implement a development project. Following their experience abroad, students return to Chicago for a three-day Final Reflection Summit.

First steps:

At the end of June 2011, after our week of preparation in Chicago, I arrived in Udaipur, Rajasthan, India with the three other students in my group (who I had not previously known). Upon our arrival at FES' office in Udaipur, we met our supervisor and other employees. Our supervisor briefed us on FES' mission and approach to preserving the forests. Through discussion with other employees and extensive reading of literature on the subject, we spent the next couple days learning about India's forests, current approaches to ecological restoration, rural livelihoods, and the importance of environmental commons. We learned that after India gained its independence from Britain in 1947, its citizens were left with a country with many of its environmental resources already exploited. The Indian government initially experimented with strict preservation of forest area, but this was highly unsuccessful as the arbitrary territorial lines hampered the lives of tribal communities: many of the forests that they needed to survive were now off-limits. As of approximately 20 years ago, the government decided to transfer responsibilities for conservation to the tribes that inhabited the forest. The rationale is that these villagers are much better at balancing resource usage and conservation than calculating bureaucrats in removed offices. This transfer happened in a relatively short time span for communities that had been practicing the same living techniques in the same areas for centuries with little influence of technology. Despite all of the government's conservation efforts, the rapidly growing Indian industries fell many trees for resources. These industries exercise considerable political clout and generally have the monetary capital to achieve their pursuits (Chauhan, 2009).

Additionally, we talked with our supervisor about our role as interns working with FES and our goals for the next two months. All parties hoped that we could implement a project that would be beneficial for the communities where we worked and could be expanded upon by FES after we left; through this type of project, we could learn much about both development work and Indian environmental issues.

The following day, our supervisor brought us to a nearby village, Chitrawas, to see some of the FES initiatives. We were surprised at how spread out the village was. There was no central location, just a loose collection of houses that participated in the same politics. Most people were very busy working on their crops, but were friendly enough to take a quick break to speak with us. We chanced to walk upon a broken water well inscribed with the lettering of an American foreign aid group. Our supervisor told us that the well has remained broken because this aid group had never taught the villagers how to properly maintain the well. We agreed that the money used to create this now defunct well could surely have been used in more efficient ways.

We familiarized ourselves with some of FES's current projects and the context of the organization's work. We learned that FES tries to remedy the inter- and intra- tribe conflicts by sitting the tribes down together and facilitating negotiations. FES hopes these meetings result in mutually beneficial agreements that outline resource usage, future conservation responsibilities, ramifications for violations of the rules, etc. Though these agreements are rarely a panacea, as tribal and individual needs are simply too varied, they do make significant progress in reducing disagreement and misunderstanding. Our supervisor continually noted that, today, much of Rajasthan's forests are protected due to joint preservation programs among various tribes that inhabit these forests. The cooperation between tribes is paramount to creating an environment that is manageable for both the FES to further champion its cause and for tribes to safely maximize forest regeneration. We recognized that in two months we would not develop the capacities for forest preservation, but by familiarizing ourselves with FES, we could learn about the context in which we would work.

The following week we shifted our focus towards implementing a project. We began by mapping FES' assets and also our own to see what resources we could use for our project. At the time of our internships, the Udaipur chapter of FES had 15 employees working in and out of the office.

FES assets:

People:	Skills:
Supervisor	Wide breadth of knowledge of India's environmental situation and extensive experience with the FES
Employee 1	Masters Degree in Social Science
Employee 2	Masters in Business Administration
Employee 3	Computer expertise
Extensive network of local representatives	Local expertise, status, and presence

Interns Assets:

Intern:	Major:	Skills:
Intern 1	History & International Affairs	Critical thinking, extensive knowledge of India
Intern 2	History, Business, Philosophy	Critical thinking, community canvassing experience
Intern 3	Economics, Philosophy	Quantitative skills, lateral thinking ability
Intern 4	Diplomacy & International Studies	Some experience with environmental issues

We also created a sample questionnaire, with very generic questions regarding local lifestyles and the environment, to be used in conversations with people in the communities we would visit. The following day we brainstormed a list of potential projects. We then evaluated all of these projects against our four criteria: feasibility, sustainability, (environmental) impact, and perceived receptiveness of the community. Popular ideas included rainwater harvesting devices, a methane gas digester, and cash crop possibilities. After hours of deliberation, we decided on what we determined to be the most productive project: a reforestation initiative in Chitrawas, the original village we visited. Our project would be to expand upon an already established forest conservation area. From what we witnessed and from what our supervisor told us, the existing block of trees was not dense enough, and the community of Chitrawas hoped for more trees. Our vision was to pool our funds with those of the community to increase the tree density of the block and thus improve forest health. Our supervisor emphasized that Chitrawas wholeheartedly backed this project idea. All that was required was to schedule a meeting with the community to finalize the details of the project. The community postponed our meeting several times. Later, we learned that a wedding had taken place, and they were too intoxicated to meet with us. (According to our supervisor, alcoholism is a significant issue in some of these agrarian communities). We eventually determined that we would need to shift our focus to a new village.

First Steps (Take #2)

We were admittedly upset that we had to effectively start all over, but we relished the opportunity to work with a more receptive and available community. Our supervisor matched us with a new village, Upli Sigri, where FES had a strong presence and repertoire. We spent three days in the village meeting people, asking questions, conducting a village meeting, and familiarizing ourselves with the livelihood of Upli Sigri. Upli Sigri is a remote village whose primary economic means is agriculture. Though situated in a healthy forest, trees here are often

victim to expanding agricultural ventures. Additionally, women had to continually fell trees to provide fuel wood for their families. We repeatedly noticed families cooking with open-flame stoves in very cramped kitchens. The walls were stained with soot and children were coughing on the smoke. Most people were definitely aware of the negative externalities caused by their stoves, but did not have any plausible alternatives for cooking. We hypothesized that people did not switch over to healthier, more environmentally sustainable cooking methods, despite being cognizant of the harm from traditional cooking methods, mainly because of logistical issues (financial restrictions, difficulty in bringing in necessary supplies given Upli Sigri's remote locale).

Upon our return to Udaipur, we reassessed the situation and brainstormed a new list of potential projects for Upli Sigri. Given that Upli Sigri had many commonalities with Chitrawas, there was much overlap in terms of problems and potential projects. Again, we evaluated all of our ideas against our criteria. Though no community members were present while we were discussing our project, we endeavored to keep the perceived community interests central to our decision making process (we felt that we had sufficient information from our meetings with the community to make an informed decision). Below is a sample matrix from our decision making process:

Criteria\Project	Rainwater harvesting	Stoves	Cash Crop Possibilities	Plows for Agriculture
Feasibility	Most roofs in Upli Sigri likely could not support a rainwater harvesting structure.	Biogas stoves are expensive while smokeless stoves are cheap.	No intern expertise with crops and we had no knowledge of what to do.	Seemingly very easy
Sustainability	Families would be able to use rainwater harvesting structures for many years.	If given proper instruction on maintenance, families should be able to use stoves for many years.	Some crops might not be suitable for certain environments.	Farmers would be able to plows for many years
(Environmental) Impact	Minimal environmental impact, but very useful for villagers.	Fewer trees needed for cooking.	Perhaps positive, but more likely negative (dependent on crop)	None

Perceived Receptiveness of Community	Villagers generally seemed enthusiastic about the project given water shortages.	Many women expressed interest in smokeless stoves. Also, many health benefits.	Most people were reluctant to introduce a non-native species into their environment.	Some, but not much.

Eventually, we decided to fund the construction of one biogas digester and ten smokeless stoves. We would also complement this with an educational component: information about proper maintenance of these stoves and the health and environmental benefits they offer. We were all excited about this project and were happy when our supervisor and the rest of FES had high regard for our endeavor.

A biogas digester is a stove that inserts cow dung into a "digester," where the dung is mixed with water to produce methane gas. This fuel is then funneled through a tube to the house to be used as electricity. The remaining cow dung is released and can be used as an effective fertilizer. The biogas digester would eliminate the need for fuel wood, and would thus save the women of the house approximately four hours each day in gathering wood. Also, because no fuel wood would need to be burned, the families could enjoy clean air and this would reduce the incidence of numerous medical complications resulting from inhaling smoke.

A smokeless stove is simply a stove that releases all of its smoke through a chimney and out of the house. Because smokeless stoves are remarkably efficient in burning fuel wood, they also significantly reduce the amount of time needed to collect sufficient wood. Equally important, because all of the smoke is redirected outside of the house, families can enjoy the same clean air as the users of the biogas stove. A recent batch of stoves were too high, much to the dismay of women, and thus uncomfortable for cooking. For our project, we would be sure that the smokeless stoves were low to the ground so that women could be comfortable while cooking.

Through GESI, we had a budget of 40,000 rupees. The total cost for materials plus installation of the biogas stove was around 20,000 rupees. A smokeless stove cost about 700 rupees. So, 10 stoves x 700 rupees/stove = 7,000 rupees. The remaining 13,000 rupees would be used for other operating expenses. The community promised to contribute their labor in installing our stoves.

With the aim of increasing the sustainability of our project, we supplemented our stoves with an informational piece. As we saw it, while most villagers understood there were healthier

cooking methods available than what they were currently using, some may not have. We felt more information is always advantageous. Additionally, we would include information about government programs aimed at increasing biogas and smokeless stove usage, so that this might eliminate some of the villagers' perceived logistical barriers, such as lack of government funding. Intern 1 and Intern 2 would produce comprehensive maintenance posters to be posted above the stoves in houses with biogas or smokeless stoves. Intern 3 and Intern 4 would create pamphlets championing the health and environmental benefits of biogas and smokeless stoves.

Next Steps:

Because we did not get started with our project until late in the third week, we had to work quickly and efficiently. To begin, we all met with a local professor, Dr. A.K. Kurchania, to gain more information about biogas digesters. Dr. Kurchania proved to be a valuable wealth of knowledge. We learned, for instance, that if a farmer can prove to his local government representative that he intends to build a biogas digester, the government will provide that farmer with an 8000 rupee subsidy (Kurchania, 2011). Also, he explained the technicalities of a biogas stove using the model stoves at the local technical university. In addition, back at the FES office, we consulted current literature about the stoves to gain further information. During the following weeks, we returned to Upli Sigri multiple times to decide on the recipients of the stoves. Twenty-five families expressed interest in the smokeless stoves. In addition to talking with local FES representatives, we hoped to meet and observe all families. We planned to vet potential recipients on our chosen criteria: number of children, perceived probability of proper maintenance, perceived trustworthiness, and perceived need. In retrospect, however, we probably were not as thorough as we would have liked to be with this vetting process, because of our limited time in India. Often, we just asked the FES representatives what they thought of the family, rather than spending any considerable length of time with the family being questioned. All families seemed qualified, however, so regardless of the ten we chose, we knew that they would benefit. In choosing the recipients for the biogas digester, however, there were only two candidate families. FES assiduously recommended one of the families, so this was an easy decision for us.

Back in Udaipur, once we had all the necessary information for our educational component, we began to create our posters and pamphlets. We contracted a sketch artist to draw the pictures for our work and hired a translator to convert our pamphlets and posters from English to Hindi. Once we had our prototypes ready, we submitted our work to a printer. During this time, we also transferred the necessary funds to the village account for the construction of the stoves.

Implementation:

A very busy organization with many projects happening simultaneously, FES is greatly under-funded and cannot afford to employ enough people to adequately devote ample time to all pursuits. All 15 employees seemed perpetually busy. Needless to say, they did not have much surplus time to provide us with constant help. We did much of our work independently. This was fine, however, because much of our work did not require supervision. Luckily, they did offer us logistical help when needed. FES provided us with transportation, accommodations, and translation help whenever we traveled to the villages, so we were generally content with their level of assistance.

Unfortunately for us, the latter half of our project coincided with India's monsoon season. The heavy rains meant that, for the farmers, planting crops took priority over our project. During our last visit to the village, nobody showed up to the scheduled meeting where we would show the villagers how to maintain the stoves that would soon be built; they were too busy planting crops. This was frustrating, to say the least; however, we had to recognize that we were not the top priority for villagers during planting season. During this trip to the village, we gave the local FES contacts our entire educational component, so they could distribute it when people were not as busy with crops.

Additionally, the rain prevented the transfer of the necessary materials for the stoves. By the time we left India, our stoves were still under construction. FES promised, however, to e-mail us pictures of the finished products as soon as construction was/is completed.

Concluding Thoughts:

As students we learned much about India's environment, including culture, history, politics, and ecology. Additionally, we became familiar with environmental NGO work, the development process, and rural India. While we hope we have provided some useful information for our village, we surely learned much more from the villagers. Our project was implemented on a small scale, but we hope our model provides an example for other communities, as well as future interns to expand upon. Hopefully, our efforts help to eliminate some of the logistical barriers which prevent the villagers of Upli Sigri from switching to environmentally healthy cooking methods. On the whole, we are all generally satisfied with how our project commenced. Although we wish we could have implemented a larger scale project, we recognize our limitations and think we did fairly well. In retrospect, something we could have done better is to have been more strategic in our communications with the villagers, given that they were busy with farming during the monsoon season.

During our time in rural India, my team collectively decided that we fully embrace ABCD as an effective means of performing meaningful community development—at least in environmental work. From our observations, communities were more invested in projects that they helped implement than communities who received projects from non-local aide organizations. This enthusiasm ensures the sustainability of a development project by increasing the likelihood that the community will preserve the project even after the aid organization departs. This approach is reminiscent of the Chinese proverb "Give a man a fish and he won't starve for a day. Teach a man how to fish and he won't starve for his entire life," meaning it is better to teach someone how to do something rather than simply doing it for them. Doing a task for somebody can be effective in the short-term, but it is not sustainable for the long-term. Had my team simply built stoves for our communities without teaching proper maintenance, villagers may have enjoyed the stoves for some time, but if the stoves broke, they would likely have no knowledge of how to repair them. Not only would they probably return to environmentally destructive cooking methods, but they would also be burdened with a broken stove.

Given FES's emphasis on reforestation primarily through community efforts, we can regard FES as a prime example of an NGO practicing ABCD. FES' success at regenerating much of Rajasthan's forests provides strong evidence for the effectiveness of ABCD. By acting as a catalyst for development (providing appropriate tools and resources to facilitate sustained preservation), FES has had success engaging rural villages in the reforestation efforts. Our supervisor stressed the fact that a majority of the success is a result of FES building upon existing community-based initiatives. FES endeavors to respect indigenous decisions before acting, and this is usually a product of extended periods of time in the community building trust and understanding. Villagers will work effectively for a cause if they are passionate about it. In this case, rural villagers surely have more zeal for preserving the forests, which directly affects their livelihood, than a calculating bureaucrat in a removed office. The bureaucrat likely has an indirect understanding of the forests, given that they are probably working out of a city. This is surely a reason for the failures of India's initial environmental strategy of government intervention.

Although the benefits of our project will not be immediately apparent, we look forward to hearing about the long-term effects through our continued correspondence with FES. In environmental development work, the effects may not be manifest until many years down the road. As our supervisor always said about environmental work, "it takes 20 minutes to cut down a tree, but 20 years to re-grow it".

At the time of this writing, we have not yet heard from FES about the progress of our project. As previously mentioned, FES is a busy organization that has a large task list yet is understaffed. I am assuming that writing us got lost somewhere on their list of priorities. Though we wish to know of the impact of our stoves, we hope to return to India someday to use our experience to implement a greater project.

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